

October 30, 2014

Mr. James E. Lynch
Senior Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RELATED TO THE PROPOSED
AMENDMENT TO SPECIAL NUCLEAR MATERIALS LICENSE NO. 2506

Dear Mr. Lynch:

By letter dated May 23, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14143A202), Northern States Power Company submitted to the U.S. Nuclear Regulatory Commission (NRC) an amendment request to the Special Nuclear Materials (SNM) license number SNM-2506 technical specifications (TS) for the Prairie Island Independent Spent Fuel Storage Installation. The proposed amendment request seeks to revise the cask cavity pressurization requirements and their technical bases for the spent fuel storage casks.

NRC staff has determined that additional information is required to complete its technical review of your application. The request for additional information is identified in the enclosure to this letter. We request that you provide the information by November 28, 2014. This request for additional information was discussed with your staff in an October 30, 2014, conference call.

If you have any questions regarding this matter, please contact me at (301) 287-9225.

Sincerely,

/RA/

Chris Allen, Project Manager
Spent Fuel Licensing Branch
Division of Spent Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No.: 72-10
License No.: SNM-2506

TAC No.: L24929

Enclosure: Request for Additional Information

cc: Prairie Island Service List

October 30, 2014

Mr. James E. Lynch
Senior Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota
1717 Wakonade Drive East
Welch, MN 55089

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Chris Allen, Project Manager
Spent Fuel Licensing Branch
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Office of Nuclear Material Safety
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Docket No.: 72-10
License No.: SNM-2506
TAC No.: L24929
Enclosure: Request for Additional Information
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Prairie Island Nuclear Generating Plant,
Units 1 and 2

cc:

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Acting Site Vice President
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Northern States Power Co. - Minnesota
1717 Wakonade Drive East
Welch, MN 55089-9642

Request for Additional Information
Northern States Power Company
Docket No. 72-10
Proposed Amendment to Special Nuclear Materials License No. SNM-2506

By letter dated May 23, 2014 (ADAMS Accession No. ML14143A202), Northern States Power Company submitted to the NRC an amendment request to SNM license number SNM-2506 TS for the Prairie Island Independent Spent Fuel Storage Installation. The proposed amendment request seeks to revise the cask cavity pressurization requirements and their technical bases for the spent fuel storage casks.

Request for Additional Information

1. Justify that positive internal pressurization is no longer required to prevent in-leakage of air.

The FSAR states the following:

A positive cask cavity pressure is described in the SAR as a barrier "to prevent inleakage of air" (Section 3.2.5.3.3/A3.2.5.3.3) and as a "precaution against the inleakage of air" (Section 3.3.1 /A3.3.1). However, in-leakage is prevented by the welded containment vessel and double O-ring seals on all mechanical connections. The seal interspace is pressurized and monitored with a low pressure alarm for each cask, as explained in the Containment Integrity discussion later in this Evaluation.

A thorough and detailed justification of the confinement integrity including base material, welds, and seal regions was provided to the staff as justification for elimination of the internal pressure requirement. That justification however appears to be unchanged from the original licensing basis, and as such, does not explain the necessity of the original requirement for internal pressurization to prevent against air in-leakage. If the confinement integrity, which limited the escape of pressurized helium to an unacceptable level was sufficient in the original licensing basis, it is unclear how air-in-leakage could physically occur, regardless of pressurization within the canister at the values under consideration. It appears that the feature of pressurization was initially coupled with the overall confinement integrity and therefore cannot merely be discarded without a more thorough explanation of its purpose and relative importance to overall confinement than what was originally provided in the amendment request.

This information is needed to ensure compliance with 10 CFR 72.120(d) and 72.122(h)(1).